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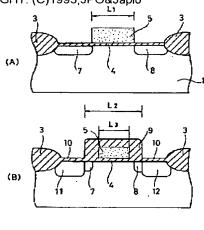
(54) MANUFACTURE OF MOS SEMICONDUCTOR DEVICE

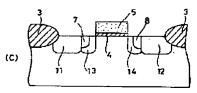
(57) Abstract:

PURPOSE: To manufacture an LDD-structure MOS transistor having a pocket implantation region with good reproducibility and by using a method not using an etching-back operation.

CONSTITUTION: (A) A gate insulating film 4 is formed in an N-type active region; a polysilicon gate electrode 5 is formed on it; boron is implanted by making use of the gate electrode 5 as a mask; low-concentration P-type regions 7, 8 for source-drain use are formed. (B) An SiO₂ film 9 is formed on the surface of the gate electrode 5 by a thermal oxidation operation; boron is implanted by making use of it as a mask; high-concentration P-type regions 11, 12 for source-drain use are formed. (C) The SiO₂ film 9 is removed; after that, phosphorus is implanted by making use of the gate electrode 5 as a mask; low-concentration N-type regions 13, 14 in a pocket implantation layer are formed.

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